What we claim is:

1. A catheter apparatus for generating a fistula on-demand between closely associated blood vessels at a chosen anatomic site in-vivo, said catheter apparatus being suitable for percutaneous introduction into and extension through a blood vessel and comprising:

(a) a tube having a fixed axial length, a discrete proximal end, a discrete distal end, and at least one internal lumen of predetermined volume,

(b) a distal end tip adapted for intravascular guidance of said tube through a blood vessel in-vivo to a chosen anatomic site,

(c) magnet means positioned at said discrete distal end and set in axial alignment with said distal end tip of said tube, said magnet means having sufficient magnetic force to cause an adjustment in position for said tube when in proximity with an a source of magnetic attraction disposed within another closely associated blood vessel,

(d) vascular wall perforation means positioned at said discrete distal end adjacent to said magnet means and set in axial alignment with said distal end tip of said tube, said vascular wall perforation means becoming adjusted in position via the magnetic force of said magnet means when in proximity with the a source of magnetic attraction disposed within a closely associated blood vessel in-vivo,

(e) means for activating said vascular wall perforation means of said tube on-demand wherein said vascular wall perforation means perforates the chosen anatomic site to generate a fistula in-vivo between the closely associated blood vessels.

2. A catheter apparatus for generating an arteriovenous fistula on-demand between a closely associated artery and vein at a chosen anatomic site in-vivo, said catheter apparatus comprising:

a pair of catheters suitable for individual percutaneous introduction into and extension through a blood vessel wherein at least one of said catheters is comprised of

(a) a tube having a fixed axial length, a discrete proximal end, a discrete distal end, and at least one internal lumen of predetermined volume,

(b) a distal end tip adapted for intravascular guidance of said tube through a blood vessel in-vivo to a chosen anatomic site.

(c) magnet means positioned at said discrete distal end and set in axial

alignment with said distal end tip of said tube, said magnet means having sufficient magnetic force to cause an adjustment in position for said tube when in proximity with a source of magnetic attraction disposed within another closely associated blood vessel,

(d) vascular wall perforation means positioned at said discrete distal end adjacent to said magnet means and set in axial alignment with said distal end tip of said tube, said vascular wall perforation means becoming adjusted in position via the magnetic force of said magnet means when in proximity with a source of magnetic attraction disposed within a closely associated blood vessel in-vivo, and

(e) means for activating said vascular wall perforation means of said catheter on-demand wherein said vascular wall perforation means perforates the chosen anatomic site to generate an arteriovenous fistula in-vivo between the closely associated blood vessels.

3. A catheter apparatus for generating an arteriovenous fistula on-demand between a closely associated artery and vein at a chosen anatomic site in-vivo, said catheter
apparatus comprising:

a first catheter suitable for percutaneous introduction into and extension through a vein in-vivo to a chosen anatomic site, said first catheter being comprised of

(a) a first tube having a fixed axial length, a discrete proximal end, a discrete distal end, and at least one internal lumen of predetermined volume,

(b) a distal end tip adapted for intravascular guidance of said first tube through a vein in-vivo to a chosen vascular site,

(c) first magnet means positioned at said discrete distal end and set in axial alignment with said distal end tip of said first tube, said first magnet means having sufficient magnetic force to cause an intravascular adjustment in position for said first catheter when in proximity with a source of magnetic attraction in-vivo, and

(d) a first component of vascular wall perforation means positioned at said discrete distal end adjacent to said first magnet means and set in axial alignment with said distal end tip of said first tube, said first component of vascular wall perforation means becoming intravascularly adjusted in position the magnetic force of said first magnet means of said first catheter when in proximity with a source of magnetic attraction in-vivo,

(e) means for activating said first component of vascular wall perforation means of said first catheter on-demand wherein said vascular wall perforation means perforate the chosen anatomic site to generate an arteriovenous fistula in-vivo; and

a second catheter suitable for percutaneous introduction into and extension through an artery in-vivo to a chosen anatomic site, said second catheter being comprised of

(a) a second tube having a fixed axial length, a discrete proximal end, a discrete distal end, and at least one internal lumen of predetermined volume,

(b) a distal end tip adapted for intravascular guidance of said second tube through an artery in-vivo to a chosen anatomic site,

(c) second magnet means positioned at said discrete distal end and set in axial alignment with said distal end tip of said second tube, said second magnet means having source of sufficient magnetic force to cause an intravascular adjustment in position for said second catheter when in magnetic proximity with said first magnetic means of said first catheter in-vivo

(d) a second component of vascular wall abutment means positioned at said discrete distal end adjacent to said second magnet means and set in axial alignment with said distal end tip of said second tube, said second component of vascular wall perforation means becoming intravascularly adjusted in position via the magnetic force of said second magnet means of said second catheter in-vivo.

4. The catheter apparatus as recited in claim 1, 2, or 3 wherein said magnet means comprises at least one rare earth magnet.

5. The catheter apparatus as recited in claim 1, 2, or 3 wherein said magnet means comprises at least one electromagnet.

6. The catheter apparatus as recited in claim 1, 2, or 3 wherein said vascular well perforation means is selected from the group consisting of radiofrequency electric circuitry means, static electricity discharge means, mechanical cutting means, and laser light energy carrying means.

7. A catheterization method for generating a fistula on-demand between closely associated blood vessels at a chosen anatomic site in-vivo, said catheterization method comprising the steps of:

procuring at least one catheter suitable for percutaneous introduction into and

extension through a blood vessel in-vivo to a chosen anatomic site, said catheter being comprised of

(a) a tube having a fixed axial length, a discrete proximal end, a discrete distal end, and at least one internal lumen of predetermined volume,

(b) a distal end tip adapted for intravascular guidance of said tube through a blood vessel in-vivo to a chosen anatomic site,

(c) magnet means positioned at said discrete distal end and set in axial alignment with said distal end tip of said tube, said magnet means having sufficient magnetic force to cause an intravascular adjustment in position for said catheter when in proximity with a source of magnetic attraction disposed within a closely associated blood vessel in-vivo,

(d) vascular wall perforation means positioned at said discrete distal end adjacent to said magnet means and set in axial alignment with said distal end tip of said tube, said vascular wall perforation means becoming intravascularly adjusted in position via the magnetic force of said magnet means when in proximity with a source of magnetic attraction disposed within a closely associated blood vessel in-vivo,

(e) means for activating said vascular wall perforation means of said catheter on-demand wherein said vascular wall perforation means perforates a chosen anatomic site between closely associated blood vessels;

percutaneously introducing said catheter into a first blood vessel and extending said catheter intravascularly to a chosen site adjacent to a closely associated second blood vessel;

percutaneously introducing a source of magnetic attraction into a closely associated second blood vessel and extending said source of magnetic attraction intravascularly to a chosen anatomic site in proximity to said extended catheter;

permitting a transvascular magnetic attraction to occur between said magnet means of said extended catheter in the first blood vessel and said source of magnetic attraction in the closely associated second blood vessel whereby said vascular wall perforation means of said catheter in the first blood vessel comes into transvascular alignment with the closely associated second blood vessel at the chosen anatomic site; and then

activating said vascular wall perforation means of said catheter on-demand wherein said vascular wall perforation means perforate of said catheter the vascular walls of said closely associated blood vessels concurrently at the chosen anatomic

site to generate a fistula in-vivo.

8. A catheterization method for generating an arteriovenous fistula on-demand between a closely associated artery and vein at a chosen anatomic site in-vivo, said catheterization method comprising the steps of:

procuring a first catheter suitable for percutaneous introduction into and extension through a vein in-vivo to a chosen anatomic site, said first catheter being comprised of

(a) a first tube having a fixed axial length, a discrete proximal end, a discrete distal end, and at least one internal lumen of predetermined volume,

(b) a distal end tip adapted for intravascular guidance of said first tube through a vein in-vivo to a chosen anatomic site,

(c) first magnet means positioned at said discrete distal end and set in axial alignment with said distal end tip of said first tube, said first magnet means having sufficient magnetic force to cause an intravascular adjustment in position for said first catheter when in proximity with a source of magnetic attraction in-vivo, and

(d) a first component of vascular wall perforation means positioned at said discrete distal end adjacent to said first magnet means and set in axial alignment with said distal end tip of said first tube, said first component of vascular wall perforation means becoming intravascularly adjusted in position via the magnetic force of said first magnetic means of said first catheter in-vivo,

(e) means for activating said first component of vascular wall perforation means of said first catheter on-demand wherein said vascular wall perforation means perforates a chosen anatomic site to generate a fistula in-vivo;

percutaneously introducing said first catheter into a vein and extending said first catheter intravascularly to a chosen anatomic site adjacent to a closely associated artery;

procuring a second catheter suitable for percutaneous introduction into and extension through an artery in-vivo to a chosen anatomic site, said second catheter being comprised of

(a) a second tube having a fixed axial length, a discrete proximal end, a discrete distal end, and at least one internal lumen of predetermined volume,

(b) a distal end tip adapted for intravascular guidance of said second tube through an artery in-vivo to a chosen anatomic site,

(c) second magnet means positioned at said discrete distal end and

set in axial alignment with said distal end tip of said second tube, said second magnet means having sufficient magnetic force to cause an intravascular adjustment in position
for said second catheter when in proximity with said first magnetic means of said first catheter in-vivo,

(d) a second component of vascular wall abutment means positioned at said discrete distal end adjacent to said second magnet means and set in axial alignment with said distal end tip of said second tube, said second component of vascular wall perforation means becoming intravascularly adjusted in position via the magnetic force of said second magnet means of said second catheter in-vivo;

percutaneously introducing said second catheter into an artery and extending said second catheter intravascularly to a chosen anatomic site in proximity to said first catheter in to a closely associated vein;

permitting a transvascular magnetic attraction to occur between said first magnetic means of said extended first catheter in the vein and said second magnetic means of said extended second catheter in the closely associated artery whereby said first component of vascular wall perforation means of said first catheter lying within the vein comes into transvascular alignment with said second component of vascular wall abutment means of said second catheter lying within the artery; and then

activating said first component of vascular wall perforation means of said first catheter on-demand wherein said vascular wall perforation means perforate the vascular walls of said vein and closely associated artery concurrently at the chosen anatomic site to generate an arteriovenous fistula in-viva.